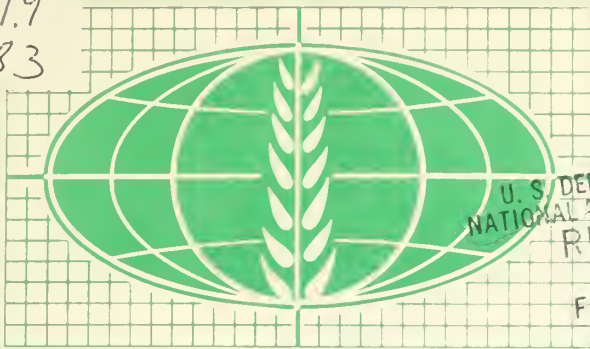


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JORDAN'S

AGRICULTURAL ECONOMY
IN BRIEF

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ABSTRACT

The economy of Jordan is beginning to show signs of recovery from the paralysis brought on by the mid-1970 internal strife and the September civil war. These disorders were a consequence of the June 1967 war with Israel which dealt a severe blow to Jordan's economy--the loss of the West Bank containing 40 percent of the country's agricultural land and production. Production of the main grains--wheat and barley--fluctuates widely, primarily because of weather. Wheat must be imported to meet domestic needs. Exports are mostly fresh fruits and vegetables. The balance of payments is supplemented by "invisibles" such as money received from Jordanian workers in other countries. Development plans call for greater expansion of irrigation schemes, use of new seed varieties, and improvement of farming methods.

Key Words: Jordan, agricultural production, wheat, barley, weather, irrigation, natural resources, internal stability.

SUMMARY

The agricultural sector of the Jordanian economy contributed \$80 million, or about one-fifth of gross domestic product in 1970. Fruits and vegetables have usually accounted for about 45 to 50 percent of total agricultural output; livestock has accounted for about 30 percent. The remaining 20 percent has come from grains, legumes, tobacco, and forestry and miscellaneous products (2 percent). Approx-

mately four-fifths of the population derive their livelihood from agriculture.

Major crops are wheat, barley, sorghum, and corn. Potatoes are the biggest vegetable crop and also one of the chief exports, along with dried vegetables and cigarettes. Imports include cereals, fruits and vegetables, and livestock.

1/ This publication updates ERS-Foreign 146 of the same title, dated February 1966.

Agricultural policy centers on stabilizing and increasing output. Crop

The map displays the State of Jordan with its international boundaries. Key features include:

- Neighboring Countries:** Syria to the north, Iraq to the northeast, Saudi Arabia to the south and southwest, and Israel to the west.
- Major Cities:** Amman (National Capital), Irbid, Zarqa, Ma'an, and others.
- Geographical Features:** Jordan River, Dead Sea, Mediterranean Sea, and various governorates (e.g., Amman, Irbid, Zarqa, Ma'an).
- Legend:**
 - International boundary (solid line)
 - Governorate boundary (dashed line)
 - Armistice line, 1949 (dotted line)
 - Road (solid line with cross-ticks)
 - Railroad (line with cross-ticks)
 - National capital (circle with a dot)
 - Governorate capital (circle with a dot)
- Scale:** 0 to 40 Kilometers / 0 to 40 Meters.

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production largely depends on the amount of rainfall, which fluctuates considerably. Thus, irrigated land area is a major goal. Jordan is also working to increase production of specific crops and make possible production of new crops, such as safflower and sugarbeets.

The Government aids farmers in several ways through virtually no taxation of agriculture, free imports of many agricultural items, establishment of cooperative societies, and creation of a corporation which is to set up a more modern marketing distribution system and promote exports.

The United States has contributed most--in total value--to economic development. Current U. S. assistance is centered on improving wheat and vegetable production and agricultural practices, and extending and improving irrigation. Others giving aid include West Germany, the United Kingdom, and the United Nations.

POPULATION

Jordan's population in 1971 was estimated at 2,400,000, rising at an annual rate of 3.4 percent. As is typical with many other developing countries, a large sector of the population is considered rural, but the urban sector is increasing at a fairly rapid rate. In 1969, about 44 percent of the population was considered fully urban, over 50 percent rural, and less than 6 percent nomadic or seminomadic. Most urban and rural people live on or adjacent to cultivated areas. The nomads inhabit the desert, leading a pastoral life. The overwhelming majority of the population lives in the northwestern corner of the country, on or near the Jordan River.

Most Jordanians are Sunni Moslem Arabs. Historically, there was a distinction between the population on the East Bank and on the West Bank. People on the East Bank largely descend from nomadic tribes which have for ages roamed the desert, either wandering through the territories within present-day boundaries of Jordan or settling in villages and towns just east of the Jordan River. People residing on the West Bank are of different origins--Canaanites, Hebrews, Syrians,

Greeks, Romans, and Byzantines have contributed to the racial mixture. Today, the Jordanian people might best be categorized by their religion, Sunni Moslem, and their language, Arabic.

THE LAND

Jordan is a relatively young country. Created as Trans-Jordan after World War I, it became independent in 1946. Following the Israeli War of Independence in 1948, Trans-Jordan annexed the West Bank, which had been part of the former Palestine. Also at that time, Trans-Jordan became known as Jordan.

Since ancient times, Jordan has been the main route for caravans crossing Saudi Arabia on their way to the Far East; today, it occupies a strategic position among the other countries of the Middle East. Jordan is bordered by Israel on the west, Syria and Iraq on the north and east, and Saudi Arabia on the south. At the Gulf of Aqaba, Jordan is almost contiguous with Egypt.

Jordan is about the size of Indiana and contains some 37,000 square miles, of which 2,000 square miles are in the West Bank (occupied by Israel). The Bank is bordered only by Israel, from a point near Ein Gedi on the Dead Sea to the juncture with the East Bank, some 60 miles due north.

The Israeli-Jordanian frontier is about 350 miles long, stretching from Lake Tiberias south to the Gulf of Aqaba. Except for the port on the Gulf, Jordan is entirely landlocked. This port is Jordan's outlet to the Indian Ocean and the Far East. Before the 1967 war, the port provided a route to the Mediterranean Sea via the now-closed Suez Canal. Jordan's main access to the Mediterranean since the closure has been through Lebanon.

Land Use

Over four-fifths of the land area is desert--part of the Syrian (north Arabian) desert. Though Jordan has about 1 million hectares of arable land, only about 600,000 hectares are under cultivation. Most of the cultivated area is in the Jordan Valley and on the plateau in the northwestern part of

the country. About 60 percent of the cultivated area is on the East Bank and the remainder on the West Bank.

Most of the 93,000 farms are owner operated and less than 25 acres in size. In the Jordan Valley, 20 percent of the landholders own less than one-half acre; 50 percent own 4 acres or less.

Climate

Throughout Jordan, rainfall is very erratic in timing and amount and droughts are not uncommon. Rain falls mainly during the short but cool winter season from December to March. The long, hot summer lasts from about April through November, during which there is little, if any, rainfall. Most of the East Bank is classified as a desert, since it averages less than 5 inches of rain a year. Rainfall increases to about 20 inches in the Jordan Valley, just south of Lake Tiberias, on both sides of the Jordan River. Only about 25 percent of the total area of Jordan gets enough rain for cultivation. Consequently, the Jordanian way of life is subsistence agriculture of a marginal kind.

ECONOMIC SITUATION

Before the June 1967 war with Israel, Jordan had made remarkable progress in its economic development. The gross domestic product (GDP) had grown at an annual rate of more than 10 percent since 1959. Expansion was noticeable in all sectors, but particularly in industry, mining, agriculture, and services related to tourism. Despite heavy dependence on foreign assistance for both imports and investments, the outlook just before the war was most optimistic.

Loss of the West Bank and Jerusalem after the war was a severe blow to Jordan. The large tourist trade, which had been steadily increasing, particularly in areas of Jerusalem, Jericho, and Bethlehem, no longer contributed to the economy. The West Bank had contained 40 percent of Jordan's arable land and accounted for an equal proportion of agricultural production. Agriculture of the East and West Banks had been complementary. After the

war, their normally lucrative exchange was disrupted and sharply reduced. However, the West Bank continues to supply the East Bank with fruits and vegetables.

As another result of the war, hostilities began early in 1968 between the newly emerged Arab guerilla forces and the Israeli forces, presenting hazardous working conditions in highly productive border areas. The inaccessibility of the construction site of the Yarmouk High Dam obstructed the implementation of irrigation projects. Development in other vital areas, such as the East Ghor Canal, was halted for a time when the Israelis damaged the canal. In short, continuing hostilities in the Jordan Valley prevented normal cultivation of much of the East Bank's best agricultural land.

The Jordanian economy has made substantial recovery since the 6-day war. During 1969 and through the first half of 1970, GDP increased about 15 percent in current prices (7 percent in real terms). This rise was due largely to heavy Government spending which was partially financed by assistance from Kuwait, Libya, and Saudi Arabia in accordance with the agreement of the "Khartoum Conference." However, recovery of the economy was again disrupted late in 1970, when hostilities broke out between the Jordanian Government and guerilla forces within the country. Economic activity in most sectors was halted for a month and repair of major irrigation facilities was delayed further. Economic recovery was also impeded by the extremely small harvest that year.

PRODUCTION

Irrigation

Irrigation is vital in Jordan because of the low and often variable level of rainfall. In recent years, about 30 percent of total agricultural production has been under irrigation, although irrigated land constitutes only 6 percent of the cultivated area. The presently irrigated area is estimated at about 40,000 hectares--7,000 hectares on the West Bank and 33,000 on the East Bank.

The East Ghor Canal project, the largest irrigation scheme, was completed in 1963. This project tapped water from the

Yarmouk River, bringing 12,000 hectares of land on the eastern slope of the Jordan Valley--the East Ghor--under irrigation. Dams have been constructed to catch runoff water in the desert; this water can then be used for irrigation. Other projects to increase irrigated area are underway. According to various studies, Jordan could irrigate about 62,000 hectares.

Crops

Jordan produces a variety of crops. Wheat is the most important, followed by barley, sorghum, and corn. Pulses include lentils, vetch, and chickpeas. The biggest vegetable crop is tomatoes. Large amounts of eggplant, onions, garlic, cauliflower, and cabbage, and substantial quantities of melons, cucumbers, and potatoes are cultivated. Olives, grapes, and figs are grown in the western part of the country; bananas, citrus fruit, and dates are produced in irrigated areas. Some tobacco is also grown (table 1).

Grains

Wheat, the primary food in Jordan, occupies a major portion of the cultivated land. Most wheat, and also barley, is grown northeast of Amman. The crop is grown largely without irrigation and production fluctuates widely. For example, in 1964, 295,000 tons of wheat were produced, compared with only 44,000 tons in 1960. An average annual wheat production for the 1960's was about 166,000 tons. These wide fluctuations have necessitated large imports of wheat--mainly from the United States under P.L. 480.

As with other developing countries, Jordan has been plagued by many traditional agricultural problems, such as poor cropping practices and low use of fertilizers. Since 1950, however, farmers have made significant progress toward solving some of these problems. Average yield of wheat, for example, increased from 8 bushels an acre in 1954-58 to 11 bushels in 1964-68. This increase resulted from use of better techniques and better selection of indigenous seed.

Barley, which is used for both food and feed, is planted on poorer soil than is wheat.

Over the last decade, production averaged 55,000 tons, with a high of 97,000 tons in 1964 and a low of 23,000 tons in 1966. However, improvement of production which emphasized careful selection of seed raised the yield from 12 bushels an acre in 1955-58 to 15 bushels in 1964-68. Almost all of the barley is grown on non-irrigated land.

Other Crops

Jordan produces and exports a substantial volume and wide range of fruits and vegetables; many of them are irrigated. Tomato production nearly doubled between 1957-59 and 1967-69 primarily because of irrigation.

Citrus fruit production also increased substantially from a 1957-59 average of 4,000 tons to one of 54,000 tons in 1967-69. The largest irrigated citrus orchards are near Jericho on the West Bank. Most of the other citrus is grown along the Jordan River, some of it irrigated by the East Ghor Canal from the Yarmouk River. The canal is the main irrigation channel for citrus and banana groves in the Jordan Valley. It has come under attack by Israeli forces a number of times; the resulting lack of water has jeopardized the orchards.

Jordan is a substantial producer of grapes. About 65 percent of production is on the West Bank. Other fruits grown are apples, pears, plums, peaches, figs, and pomegranates. Most of the olives produced are grown on the West Bank. In 1967, a good year for olive production, 99,000 tons of olives were produced. In an "off" year, however, production has been as low as 7,000 tons.

Tobacco is an important industrial crop, grown mostly on the East Bank. The kinds grown are an oriental "hishi" type and Virginia tobacco. Tobacco is used mostly in the production of cigarettes; about 70 percent is domestically consumed and the rest exported--mainly to Kuwait and Saudi Arabia. An area planted annually to Virginia-type tobacco averaged about 7,500 acres between 1959 and 1968.

Area planted to "hishi" tobacco remained relatively stable at about 2,700 acres

Table 1.--Production of selected agricultural commodities, Jordan, averages
1957-59 and 1961-65, annual 1967-71 ^{1/}

Crop	1957-59	1961-65	1967	1968	1969	1970	1971
-----1,000 metric tons-----							
Wheat.....	130	180	226	173	190	79	220
Barley.....	41	63	80	55	55	25	36
Pulses.....	5	16	7	7	7	6	7
Lentils.....	7	15	26	11	20	12	25
Potatoes.....	14	12	17	18	18	10	18
Onions.....	17	19	28	28	25	20	25
Sesameseed.....	3	2	2	3	3	3	3
Tomatoes.....	98	202	216	180	244	219	250
Citrus fruits.....	4	31	49	50	63	54	60
Bananas.....	12	11	22	18	17	17	20
Grapes.....	48	75	28	25	40	36	38
Olives.....	26	59	99	40	63	35	60

^{1/} Includes West Bank.

Source: Economic Research Service, U. S. Department of Agriculture.

Table 2.--Livestock numbers by species, Jordan, 1964-69

Species	1964	1965	1966	1967 ^{1/}	1968 ^{1/}	1969 ^{1/}
-----Thousands-----						
Sheep.....	803	987	1136	768	792	854
Goats.....	651	759	766	377	400	528
Cattle.....	65	73	78	41	40	49
Camels.....	19	19	17	11	13	13

^{1/} East Bank only.

Source: Jordan, Agricultural Statistical Yearbook and Agricultural Sample Survey, 1970.

during the same period. Annual production of both types averaged about 1,140 tons in 1959-66.

was then about 26 pounds per person.

Livestock

In years of good rainfall, livestock products account for as much as one-third of the total value of agriculture. During years of drought, losses caused by death and increased slaughter of animals are substantial (table 2). Since greater importance is attached to size of the herd rather than productivity, large herds of animals in fairly poor physical condition are common. Most of the sheep and goat herds are owned by Bedouin tribes which follow a traditional seminomadic pattern of grazing and tending.

The Bedouin nomads who roam the desert of Jordan, Syria, Israel, and Saudi Arabia have a fairly conservative diet, consisting mainly of camel's milk and dried dates, supplemented with boiled wheat and rice.

A large number of Jordanians are considered refugees. The basic food ration provided to the refugees by the U.N. Relief and Works Agency contains about 1,590 calories per day per person. Extra food and milk are distributed to children and pregnant women.

TRADE

Jordan's trade pattern largely depends on the volume of domestic production, which, as mentioned, depends in part on weather conditions. Major exports are fruits and vegetables, mainly tomatoes and dried vegetables. Cigarettes are also among the leading exports and contribute rather substantially to foreign exchange earnings. Export value of cigarettes during 1964-66 averaged \$1.2 million, slightly less than 6 percent of total exports. In 1968 and 1969, exports averaged \$1.5 million, more than 9 percent of total agricultural exports (table 3).

Jordan imports a substantial amount of cereals and cereal preparations, particularly wheat, rice, and wheat flour. Also imported are fruits and vegetables (in particular, apples), potatoes, refined sugar, coffee, cocoa, and spices (table 4).

To supplement livestock numbers, Jordan imports live animals regularly, primarily from Syria and Turkey. During 1966-68, imports averaged 147,000 head of sheep and goats with value averaging \$2.2 million.

The United States takes virtually no agricultural products from Jordan. Recent U.S. agricultural exports to Jordan have consisted primarily of wheat and wheat flour, along with some feed grains and dairy products, all under the P.L. 480 program (table 5).

CONSUMPTION

Average caloric intake ranges from about 2,300 to 2,800 calories per day. The range can be partly attributed to the different life styles of rural and urban Jordanians.

Villagers live on a diet of bread, leben (a semisolid curdled milk, somewhat like yogurt), cheese, olives and olive oil, onions, and seasonal fruits. Bread, which is made mainly of wheat, is eaten with all meals. People living in larger towns and cities have a more varied diet including fruits, vegetables, and meats.

Principal meats consumed are lamb, mutton, and goat. Red meats are scarce and pork is proscribed by the Islamic religion. Some poultry is eaten and camel meat is consumed mostly by nomads. According to the United Nations Food and Agriculture Organization (FAO) Food Balance of 1960-62, Jordan's average annual meat consumption

Table 3.--Exports of principal agricultural products and major destinations,
Jordan, 1966-69

Agricultural product and major destination	:	1966	:	1967	:	1968	:	1969
	:		:		:		:	
	:	-----1,000 dollars-----						
Live animals (including poultry)....	:	114	:	106	:	54	:	30
Dairy products (including eggs).....	:	195	:	195	:	298	:	277
Cereals and cereal preparations.....	:	297	:	485	:	538	:	463
Wheat and wheat flour.....	:	250	:	288	:	462	:	386
Saudi Arabia.....	:	250	:	287	:	356	:	383
Fruits and vegetables.....	:	9,886	:	11,271	:	13,743	:	13,742
Fruits and nuts.....	:	2,335	:	2,739	:	3,666	:	4,018
Syria.....	:	865	:	819	:	215	:	1,001
Kuwait.....	:	496	:	845	:	848	:	1,278
Bananas.....	:	797	:	544	:	545	:	801
Iraq.....	:	294	:	276	:	265	:	324
Vegetables, fresh and dried.....	:	7,551	:	8,532	:	10,007	:	9,724
Tomatoes.....	:	5,319	:	4,924	:	6,232	:	5,575
Iraq.....	:	2,168	:	1,905	:	3,544	:	2,596
Kuwait.....	:	687	:	1,176	:	1,509	:	1,245
Tobacco.....	:	19	:	34	:	23	:	35
Hides and skins.....	:	628	:	445	:	514	:	409
Lebanon.....	:	605	:	445	:	452	:	309
Animal and vegetable fats and oils....	:	221	:	691	:	649	:	1,042
Kuwait.....	:	151	:	630	:	530	:	911
Other agricultural exports.....	:	683	:	816	:	538	:	420
Total agricultural exports.....	:	12,043	:	14,043	:	16,357	:	16,418
Nonagricultural exports.....	:	12,481	:	13,913	:	17,724	:	16,957
Total exports.....	:	24,524	:	27,956	:	34,081	:	33,375

Source: Jordan, External Trade Statistics.

Table 4.--Imports of principal agricultural products from major sources,
Jordan, 1966-69

Agricultural product and major source	1966	1967	1968	1969
	----- 1,000 dollars -----			
Live animals.....	3,771	3,224	4,888	8,764
Sheep and goats.....	2,937	2,474	3,413	7,295
Syria.....	2,012	1,626	2,788	6,600
Turkey.....	809	489	333	308
Poultry.....	460	504	1,350	584
Lebanon.....	418	394	1,268	427
Meat and preparations.....	823	920	2,436	2,152
Argentina.....	71	234	1,338	1,208
Netherlands.....	131	135	141	19
Dairy products and eggs.....	2,955	3,363	4,503	5,271
Milk.....	1,291	1,527	1,548	2,055
Netherlands.....	536	576	552	655
Eggs in shell.....	652	947	1,543	1,138
Lebanon.....	141	504	1,245	1,264
Cereals and preparations.....	20,411	11,435	13,612	10,825
Wheat.....	5,668	945	2,646	520
United States.....	3,227	868	2,333	14
Rice.....	4,110	3,754	3,179	3,511
Arab Republic of Egypt.....	2,640	2,583	2,351	2,985
Mainland China..	1,190	1,089	531	174
Wheat flour.....	6,304	5,775	6,805	4,081
Lebanon.....	1	1,619	5,229	1,191
United States.....	4,803	3,597	1,356	2,363
Corn.....	1,951	123	79	1,142
United States.....	1,570	118	16	-
Peru.....	-	-	-	528
Brazil.....	-	-	-	514
Barley.....	1,850	259	425	716
Iraq.....	1,850	183	425	716
Australia.....	-	59	-	-

Continue--

Table 4.--Imports of principal agricultural products from major sources,
Jordan, 1966-69--Continued

Agricultural product and major source	1966	1967	1968	1969
	<u>1,000 dollars</u>			
Fruits and vegetables.....	8,045	7,052	6,454	6,472
Fruits and nuts.....	4,756	4,488	3,749	3,577
Citrus.....	989	591	255	719
Apples.....	2,286	2,257	2,112	1,134
Lebanon.....	2,271	2,241	2,109	1,125
Vegetables.....	1,978	2,470	2,705	2,895
Sugar.....	5,720	4,356	5,192	6,145
Refined sugar	5,496	4,256	4,921	6,005
USSR.....	1,522	1,374	1,927	1,405
Czechoslovakia.....	1,238	996	525	423
Romania.....	542	918	904	527
Coffee, tea, cocoa, and spice.....	4,799	4,400	5,048	5,584
Coffee.....	1,563	1,774	1,638	2,047
Brazil.....	535	881	644	838
Cocoa.....	443	253	296	239
Tea.....	2,352	1,996	2,613	2,891
India.....	1,799	1,148	1,906	2,327
Feeding stuff for animals.....	1,257	1,179	556	1,301
Tobacco and manufactures.....	1,853	2,709	3,164	3,018
United States.....	1,274	1,666	2,120	1,985
Oilseeds, nuts and kernels.....	1,461	1,250	1,049	1,062
Animal and vegetable oils, and fats, fixed and processed.....	3,384	2,118	1,118	1,375
Other agricultural imports.....	3,349	1,678	1,277	1,139
Total agricultural imports.....	57,828	43,684	48,797	53,108
Nonagricultural imports.....	133,164	110,450	112,180	136,537
Total imports.....	190,992	154,134	160,977	189,705

Source: Jordan, External Trade Statistics.

Table 5.--U.S. agricultural exports to Jordan, 1967-70

Source: U.S. Foreign Trade Statistics.

Trade Deficit

Jordan characteristically suffers from a trade deficit. A wide range of consumer goods, as well as capital equipment, must be imported. Until the June 1967 war, the deficit was increasing at approximately the same rate as the increase in GDP. Invisible factors, however, contributed to make up the deficit in merchandise trade. These included money accruing from Jordanian citizens working overseas; tourist earnings, particularly from the West Bank; and, to a lesser extent, investment income in the form of duties from use of pipelines traversing Jordanian territory. Despite the more or less uniform rate of increase in the deficit before the 1967 war, the outlook for improvement in external payments was good. More tourists and increasing exports might have been sufficient to cover the country's rising import needs. However, Jordan would have had to continue depending on foreign assistance, especially to balance the imports of capital goods.

AGRICULTURAL POLICY

Agricultural policy centers on and emphasizes the need to stabilize and increase output. Thus, one goal is to en-

large the irrigated area as much as possible to lessen dependence on rainfall.

To achieve another goal--self sufficiency--Jordan is striving to increase production of specific crops and livestock products and is carrying out research on new crops, such as safflower and sugarcane.

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dustry is fixed by the Government in conjunction with the industry. High customs duties are charged on imports of raw tobacco to protect the tobacco growers. The cigarette industry also assists tobacco farmers by giving them loans until the crop is harvested and by furnishing assistance during the growing season.

The Government does not give direct subsidies to farmers; however, it does aid them in a number of ways. The country's agriculture is practically free of taxation. Machinery, fertilizer, and herbicides, as well as other agricultural items, are imported free of customs duties. The Agricultural Credit Corporation gives loans to farmers with reasonable terms and rates. Also, the Plant Protection Service sprays trees for diseases and insect control at low cost.

The Government has helped establish various cooperative societies. The supply and marketing societies not only market farm produce, but also provide seed, fertilizer, insecticides, and other agricultural inputs to farmers. Functions of these societies have not been all encompassing. The market undertaking has mainly involved collecting, transporting, and selling certain crops--mainly fruits and vegetables--on behalf of society members.

On April 16, 1968, the Government passed a law establishing the Agricultural Products Marketing Corporation, which has the very specific function of achieving a more modern distribution system and promot-

ing exports. These activities will be implemented through modern classification and packing practices, better transportation and marketing facilities, publicizing Jordanian agricultural products in present markets, and finding new markets.

FOREIGN ASSISTANCE

In total value, the United States has been the largest contributor to Jordan's economic development--primarily through the Agency for International Development (AID). Present agricultural assistance centers on improving wheat production in hopes of doubling yields. Work is also being done to improve vegetable yields and agricultural practices and to extend and improve irrigation. Thus, the United States aided in completing the East Ghor Canal irrigation project and is encouraging greater use of fertilizers and pesticides.

Other countries and organizations are also providing economic aid. West Germany is helping in irrigation schemes and well-drilling; the United Kingdom is providing veterinary services and technical assistance in soil fertility and irrigation. The United Nations is working on eight agricultural or agricultural-related projects. FAO, as well as AID, is involved in introduction of high-yielding seed varieties, livestock development and range improvement, production practices, and promotion of fertilizer and pesticide use. In addition, FAO is interested in improvement of tobacco grown from high-yielding varieties and establishment of curing facilities.